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APPLICATION NO. 09/315,384	FILING DATE 07/02/99	ECHIGO FIRST NAMED INVENTOR	ATTORNEY DOCKET NO. 054629
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PRATS, F	EXAMINER
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1651 ART UNIT	PAPER NUMBER
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07/18/01

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/319,384

Applicant(s)

ECHIGO ET AL.

Examiner

Francisco C Prats

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. The amendment filed May 4, 2001, has been received and entered. The text of those sections of Title 35, U.S. Code, not included in this action can be found in a prior office action.
2. Claims 20-36 have been cancelled.
3. Claims 1-19 are pending and are examined on the merits.

Claim Objections

4. Claims 7, 8, 18 and 19 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple. See MPEP § 608.01(n). Note that, although the MPEP specifically authorizes removal of improper multiple dependent claims from consideration, the claims will be further treated on the merits in the interest of compact prosecution.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-19 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and

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distinctly claim the subject matter which applicant regards as the invention.

The recitation "treating the inside of a porous article" is confusing, and therefore indefinite, because it is not clear whether the recitation refers to the treatment of the inside of a box, for example, or whether the recitation refers to the treatment of the inside of the pores of the material. Also, it is not clear what is encompassed by the recitation "treating."

The recitation in claim 5, "removing a portion of a water insoluble solid component" is indefinite because the claim does not state what the component is being removed from.

The recitation in claims 12 and 13, "equivalent", is indefinite because it is not clear whether the recitation means that the compound is the same or similar to that, and what the similarity or "equivalence" must be.

The recitation "high concentration" in claim 19 is indefinite because it is not clear how high the concentration must be.

Lastly, claims 7, 8, 18 and 19 are indefinite because they are multiple dependent claims which depend on multiple dependent claims, thereby making it impossible to determine which of the numerous limitations recited therein are required, and when, and which limitations are not required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3, 5-15 and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Schneider et al (WO 95/01426).

Schneider discloses numerous compositions for various applications, said compositions comprising an enzyme which may be a laccase, catechol oxidase, bilirubin oxidase from *Myrothecium*, or monophenol monooxygenase (see p. 19, lines 1-27). Schneider's compositions also comprise lignin (see p. 6, line 35 through p.7, line 4), for use in polymerizing lignin so as to prepare wood composites such as chipboard or fiberboard (see claim 18, at p. 46, line 29 through p. 47, line 2). Schneider also discloses the presence of enhancing agents in the compositions (see throughout document), said enhancing agents having the claimed formulae, as well as the use of numerous co-agents, depending on the desired application of the composition.

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See pp. 20-35. A holding of anticipation over the cited claims is clearly proper.

9. Claims 1-6, 8, 15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Haars et al (U.S. Pat. 4,432,291).

Haars et al disclose compositions comprising lignin or lignin sulfonate and laccase or catechol oxidase or peroxidase in an aqueous solution. Note that water can be considered a deodorant, a flame retardant, a sanitizer, or an insect repellent. A holding of anticipation over the cited claims is therefore clearly proper.

10. Claims 1-3, 5, 6, 8, 15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Yde (WO 93/23477).

Yde discloses the preparation of a binder for wood by combining a lignin gel with laccase or peroxidase in an aqueous solution. Note that water can be considered a deodorant, a flame retardant, a sanitizer, or an insect repellent. A holding of anticipation over the cited claims is therefore clearly proper.

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11. Claims 1, 2, 6, 8, 15 and 19 are rejected under 35

U.S.C. 102(b) as being anticipated by Isao et al (JP 07126377 A).

Isao et al disclose the preparation of a copolymer by combining phenol, aniline and an enzyme which may be a peroxidase in an aqueous solution. Note that water can be considered a deodorant, a flame retardant, a sanitizer, or an insect repellent. A holding of anticipation over the cited claims is therefore clearly proper.

12. Claims 1, 2, 6, 15 and 19 are rejected under 35

U.S.C. 102(b) as being anticipated by Naoichi et al (JP 06287516 A).

Naoichi et al disclose the preparation of lacquer by combining glycoprotein, polysaccharide, laccase and a urushiol analogue containing at least 60% catechol derivative having both 15-22C alkenyl groups with at least two double bonds in a cis arrangement through a methylene group and at least two hydroxyl groups. A holding of anticipation over the cited claims is therefore clearly proper.

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13. Claims 1, 2, 6, 8, 15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyakoshi et al (JP 5-117591).

Miyakoshi et al disclose the preparation of a coating composition useful as an adhesive, rustproofing, or waterproofing, by combining a catechol derivative, vegetable substance, an enzyme which may be laccase, ascorbate oxidase or tyrosinase, and water. Note that water can be considered a deodorant, a flame retardant, a sanitizer, or an insect repellent. A holding of anticipation over the cited claims is therefore clearly proper.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haars et al (U.S. Pat. 4,432,291), Yde (WO 93/23477) and Isao et al (JP 07126377 A).

As discussed above, each of the cited references discloses a composition comprising a peroxidase and a substrate therefor. The references differ from the claims in that they do not disclose the *in situ* enzymatic preparation of hydrogen peroxide as recited in claim 16. However, the artisan of ordinary skill clearly would have recognized that the hydrogen peroxide required by the peroxidases of the cited references could have been readily generated enzymatically *in situ*. The artisan of ordinary skill, recognizing the suitability of generating hydrogen peroxide *in situ* would therefore have been motivated to have used that method. A holding of obviousness is therefore clearly required.


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No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francisco C Prats whose telephone number is 703-308-3665. The examiner can normally be reached on Monday through Friday, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 703-308-4743. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.


Francisco C Prats
Primary Examiner
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FCP
July 17, 2001